Baseline Trash Load and Short-Term Trash Load Reduction Plan

February 2012

In compliance with Provisions C.10.a(i) and C.10.a(ii) of Order R2-2009-0074

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City of Menlo Park
SHORT-TERM TRASH LOAD REDUCTION PLAN

CERTIFICATION STATEMENT

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature by Duly Authorized Representative:

Matt Oscamou
Engineering Services Manager
January 26, 2012

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ABBREVIATIONS

BASMAA	Bay Area Stormwater Management Agencies Association
BID	Business Improvement District
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CASQA	California Stormwater Quality Association
CDS	Continuous Deflection Separator
CEQA	California Environmental Quality Act
CY	Cubic Yards
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GIS	Geographic Information System
MRP	Municipal Regional Stormwater NPDES Permit
MS4	Municipal Separate Storm Sewer System
NGO	Non-Governmental Organization
NPDES	National Pollutant Discharge Elimination System
Q	Flow
SFRWQCB	San Francisco Regional Water Quality Control Board
SWRCB	State Water Resource Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
Water Board	San Francisco Regional Water Quality Control Board
WDR	Waste Discharge Requirements

PREFACE

This Baseline Trash Load and Short-Term Trash Load Reduction Plan (Plan) is submitted in compliance with provision C.10.a(i) and C.10.a(ii)of the Municipal Regional Stormwater NPDES Permit (MRP) for Phase I communities in the San Francisco Bay (Order R2-2009-0074). This Plan was developed using a regionally consistent format developed by the Bay Area Stormwater Management Agencies Association (BASMAA). Based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas), the City of Menlo Park may choose to amend or revise this Plan. If revisions or amendments are necessary, a revised Short-Term Plan will be submitted to the Water Board via the Menlo Park's annual reporting process.

1.0 INTRODUCTION

The Municipal Regional Stormwater NPDES Permit for Phase I communities in the San Francisco Bay (Order R2-2009-0074), also known as the Municipal Regional Permit (MRP), became effective on December 1, 2009. The MRP applies to 76 large, medium and small municipalities (cities, towns and counties) and flood control agencies in the San Francisco Bay Region, collectively referred to as Permittees. Provision C.10 of the MRP (Trash Load Reduction) requires Permittees to reduce trash from their Municipal Separate Storm Sewer Systems (MS4s) by 40 percent before July 1, 2014.

Required submittals to the San Francisco Bay Regional Water Quality Control Board (Water Board) by February 1, 2012 under MRP provision C.10.a (Short-Term Trash Loading Reduction Plan) include:

1. A Baseline trash load estimate and description of the methodology used to determine the load level.
2. A description of the Trash Load Reduction Tracking Method that will be used to account for trash load reduction actions and to demonstrate progress and attainment of trash load reduction levels.
3. A **Short-Term Trash Loading Reduction Plan** that describes control measures and best management practices that will be implemented to attain a 40 percent trash load reduction from its MS4 by July 1, 2014.

This Short-Term Trash Load Reduction Plan (Short-Term Plan) is submitted by the City of Menlo Park in compliance with the portions of MRP provision C.10.a.i listed as one and three above. In compliance with a methodology description, BASMAA submitted a progress report on behalf of Permittees that briefly describes the methodologies used to develop trash baseline loads (BASMAA 2011a). These methods are more fully described in BASMAA (2011b, 2011c). Lastly, the *Trash Load Reduction Tracking Method Technical Report* (BASMAA 2011d) was submitted by BASMAA on behalf of Permittees in compliance with submittal two described above. The Baseline Loading Rates and Tracking Method projects are briefly described below.

Baseline Trash Generation Rates Project

Through approval of a BASMAA regional project, Permittees agreed to work collaboratively to develop a regionally consistent method to establish baseline trash loads from their MS4s. The project, also known as the *BASMAA Baseline Trash Generation Rates Project* assists Permittees in establishing a baseline to demonstrate progress towards MRP trash load reduction goals (e.g., 40 percent). The intent of the project was to provide a scientifically-sound method for developing default baseline trash generation rates that can be adjusted, based on Permittee/site specific conditions; and used to develop baseline loading rates and loads. Baseline loads form the reference point for comparing trash load reductions achieved through control measure implementation.

Baseline trash loading rates are quantified on a volume per unit area basis and based on factors that significantly affect trash generation (e.g. land use, population density, and economic profile). The method used to the establish baseline trash loads for each Permittee builds off "lessons learned" from previous trash loading studies conducted in urban areas (Allison and Chiew 1995; Allison et al. 1998; Armitage et al. 1998; Armitage and Rooseboom 2000; Lippner et al. 2001; Armitage 2003; Kim et al. 2004; County of Los Angeles 2002, 2004a, 2004b; Armitage 2007). The method is based off a conceptual model developed as an outgrowth of these studies (BASMAA 2011b). Baseline trash loading rates were

developed through the quantification and characterization of trash captured in Water Board recognized full-capture treatment devices installed in the San Francisco Bay area. Methods used to develop trash baseline loading rates are more fully described in BASMAA (2011b, 2011c, and 2012).

Trash Load Reduction Tracking Method Summary

The trash load reduction tracking method, described in the *Trash Load Reduction Tracking Method Technical Report,* assists Permittees in demonstrating progress towards reaching trash load reduction goals defined in the MRP (e.g., 40 percent). The tracking method is based on information gained through an extensive literature review and Permittee experiences in implementing stormwater control measures in the San Francisco Bay Area. The literature review was conducted to evaluate quantification methods used by other agencies to assess control measure effectiveness or progress towards quantitative goals. Results are documented in the *Trash Load Reduction Tracking Method: Technical Memorandum No.1 – Literature Review* (BASMAA 2011d).

Methods attributable to specific trash control measures fall into two categories: 1) trash load reduction quantification formulas; and 2) load reduction credits (BASMAA 2011e). Quantification formulas were developed for those trash control measures that were deemed feasible and practical to quantify load reductions at this time. Load reduction credits were developed for all other control measures included in the methodology development. Both categories of methods assume that as new or enhanced trash control measures are implemented by Permittees, a commensurate trash load reduction will occur. Progress towards load reduction goals will be demonstrated through comparisons to established trash baseline load estimates developed through the BASMAA *Baseline Generation Rates Project.*

Short-Term Trash Load Reduction Plan

The purpose of this Short-Term Plan is to describe the current level of implementation of control measures and best management practices, and identify the type and extent to which new or enhanced control measures and best management practices will be implemented to attain a 40 percent trash load reduction from their MS4 by July 1, 2014. The Short-Term Plan was developed using a template created by BASMAA through a regional project. New and enhanced trash control measures (e.g., Best Management Practices) that Permittees may implement to demonstrate trash load reduction goals are included in Table 1.1. This list was developed collaboratively through the BASMAA Trash Committee, which included participation from Permittee, stormwater program, Water Board and non-governmental organization (NGO) staff. The list of control measures is based on: 1) the potential for Permittees to implement; 2) the availability of information required to populate formulas and develop credits; and 3) the expected benefit of implementation. Load reductions associated with each control measure are demonstrated either through a quantification formula (QF) or credits (CR) described in the *Trash Load Reduction Tracking Method Technical Report* (BASMAA 2011e).

In efforts to reduce trash discharged from MS4s, Permittees may choose to implement control measures that are not included in Table 1.1 or described more fully in BASMAA (2011e). If a Permittee chooses to do so, methods specific to calculating trash load reductions for that control measure would need to be developed. Additionally, at that point, consideration should be given to updating this Short-Term Plan.

Additionally, based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas), the City of Menlo Park may amend or revise this Plan. If revisions or amendments are

necessary, a revised Short-Term Plan will be submitted to the Water Board via the City of Menlo Park's annual reporting process.

Table 1.1- Trash Control Measures for which load reduction quantification credits or formulas were developed to track progress towards trash load reduction goals.

Load Reduction Credits
Single-use Carryout Plastic Bag Ordinances
Polystyrene Foam Food Service Ware Ordinances
Public Education and Outreach Programs
Activities to Reduce Trash from Uncovered Loads
Anti-Littering and Illegal Dumping Enforcement Activities
Improved Trash Bin/Container Management Activities
Single-Use Food and Beverage Ware Ordinances
Quantification Formulas
On-land Trash Pickup (Volunteer and/or Municipal)
Enhanced Street Sweeping
Partial-Capture Treatment Devices
Enhanced Storm Drain Inlet Maintenance
Full-Capture Treatment Devices
Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal)

This Short-Term Plan is organized into the following sections:

- Introduction
- Trash Baseline Load Estimate
- Load Reduction Calculation Process
- Planned Implementation of New or Enhanced Control Measures
- Implementation Schedule
- References

2.0 BASELINE TRASH LOADING ESTIMATE

Note: *Tables and information presented in this section are subject to change based on the results of a third monitoring event of the BASMAA Baseline Trash Generation Rates Project. Therefore, this section of the Short-Term Plan may be updated with revised trash generation rates, baseline loading rates, and baseline loads.*

This section provides the estimated annual trash baseline load from the City of Menlo Park's Municipal Separate Storm Sewer System (MS4). In compliance with Provision C.10.a.ii of the MRP, the City of Menlo Park worked collaboratively with other MRP Permittees through BASMAA to develop data and the process necessary to establish baseline trash loading estimate from our MS4. The collaborative project was managed through the BASMAA Trash Committee and included a series of steps described in BASMAA (2012) and listed below. The approach was intended to be cost-effective and consistent, but still provide an adequate level of confidence in trash loads from MS4s, while acknowledging that uncertainty in trash loads still exists. The approach entailed the following steps:

1. Conduct literature review;
2. Develop conceptual model;
3. Develop and implement sampling and analysis plan;
4. Test conceptual model;
5. Develop and apply default trash **generation rates** to Permittee effective loading areas;
6. Adjust default trash generation rates based on baseline levels of control measure implementation by the Permittee to develop trash **baseline loading rates**; and,
7. Calculate Permittee-specific annual trash **baseline load**.

Through the collaborative BASMAA project, default baseline trash generation rates (volume per area) were developed for a finite set of categories, based on factors that significantly affect trash loads (e.g., land use). These trash generation rates were then applied to effective loading areas in applicable jurisdictional areas within the City of Menlo Park. Trash generation rates were then adjusted based on baseline street sweeping, storm drain inlet maintenance, and stormwater pump station maintenance conducted in each applicable area. The sum of the trash loads (i.e., rate multiplied by area) from each effective loading area represents the City of Menlo Park's baseline trash load from its MS4. A full description of the methods by which trash baseline loads were developed is included in BASMAA (2012a) and is summarized below.

Permittee Characteristics

Incorporated in 1874, the City of Menlo Park covers 6,700 acres in Santa Mateo County, and has a jurisdictional area of 3,570 acres. According to the 2010 Census, it has a population of 32,026, with a population density of 1,839 people per square mile, and average household size of 2.53. Of the 32,026 who call the City of Menlo Park home, 24.4% are under the age of 18, 5.7% are between 18 and 24, 29.9% are between 25 and 44, 25.8% are between 45 and 65, and 14.3% are 65 or older.

Top employers in the City of Menlo Park include Facebook, SRI International, Tyco Electronics, Intuit, and Pacific Biosciences. It is also home to the United States Geological Survey and the SLAC National Accelerator Laboratory. The median household income was $84,609 in 2000[1].

Default Trash Generation Rates (Regional Approach)

A set of default trash generation rates was developed via the BASMAA regional collaborative project (BASMAA 2012a). Default generation rates were developed based on a comparison between trash characterization monitoring results, land uses, economic profiles, and other factors that were believed to possibly affect trash generation. Three trash characterization monitoring events were scheduled via the *Trash Generation Rates Project*. Due to the compliance timeline in the MRP, only two of three trash characterization monitoring events were used to develop trash generation rates described in BASMAA (2012a) and presented in this section. Following the completion of the third characterization event (Winter 2011/12), this section of the Short-Term Plan may be updated to reflect the most up-to-date trash generation and loading rates available. Trash generation rates based on the results of two of the three characterization events are shown in Table 2-1 for each trash loading category.

Table 2.1-Regional Default Annual Trash Generation Rates by Land Use Category

Land Use Category	Generation Rates (Gallons/Acre)
Retail and Wholesale	29.99
High Density Residential	17.04
K-12 Schools	13.14
Commercial and Services/ Heavy, Light and Other Industrial	7.08
Urban Parks	2.14
Low Density Residential	1.25
Rural Residential	0.17

Jurisdictional and Effective Loading Areas

Default trash baseline generation rates presented in Table 2-1 were applied to effective loading areas with **jurisdictional areas** within the City of Menlo Park. The City of Menlo Park's jurisdictional areas includes all urban land areas within the City of Menlo Park boundaries that are subject to the requirements in the MRP. Land use areas identified by a combination of the ABAG 2005 land use dataset and Permittee knowledge that were not included within the City's jurisdictional areas include:

- Federal and State of California Facilities and Roads (e.g., Interstates, State Highways, Military Bases, Prisons)
- Roads Owned and Maintained by Santa Mateo County
- Colleges and Universities (Private or Public)

[1] From the 2000 Census. The median household income for the City of Menlo Park from the 2010 Census is not currently available.

- Non-urban Land Uses (e.g., agriculture, forest, rangeland, open space, wetlands, water)
- Communication or Power Facilities (e.g., PG & E Substations)
- Water and Wastewater Treatment Facilities
- Other Transportation Facilities (e.g., airports, railroads, and maritime shipping ports).

Once the City of Menlo Park's jurisdictional area was delineated, an effective trash loading area was developed by creating a 200-foot buffer around all streets within the City's jurisdictional area. The purpose of the effective loading area is to eliminate land areas not directly contributing trash to the City's MS4 (e.g., large backyards and rooftops). Both the jurisdictional and the effective loading areas for the City of Menlo Park are presented in Table 2-2.

Table 2.2: Jurisdictional areas and effective loading areas in the City of Menlo Park by land use classes identified by ABAG (2005).

Land Use Category	Jurisdictional Area (Acres)	Effective Loading Area (Acres)	% of Effective Loading Area
High Density Residential	409	376	13
Low Density Residential	1,733	1,655	57
Rural Residential	57	48	2
Commercial and Services/ Heavy, Light and Other Industrial	964	611	21
Retail and Wholesale	97	84	3
K-12 Schools	94	58	2
Urban Parks	216	90	3
TOTAL	3,570	2,923	**100%**

Permittee-Specific Baseline Trash Loading Rates

Regional default trash generation rates developed through the BASMAA regional collaborative project were applied to effective loading areas within the City of Menlo Park based on identified land uses. These generation rates were then adjusted based on the calculated effectiveness of baseline street sweeping, storm drain inlet maintenance and pump station maintenance implemented by the City. These adjustments were conducted in GIS due to the site specificity of baseline generation rates and baseline control measure implementation. The following sections describe the baseline level of implementation for these three control measures. A summary of trash baseline generation and loading rates for the City of Menlo Park are provided in Table 2-3 and areas associated with these rates are illustrated in Figure 2-1.

Baseline Street Sweeping

A "baseline" street sweeping program is defined as the sweeping frequency and parking enforcement implemented by the City of Menlo Park prior to effective date of the MRP. Baseline street sweeping differs from "enhanced" street sweeping, which includes increased parking enforcement and/or sweeping conducted at a frequency greater than baseline ceiling (i.e., once per week for retail land uses and twice per month for all other land uses). The baseline ceiling was created to not penalize implementers of enhanced street sweeping programs prior to the effective date of the MRP. For those Permittees that sweep less frequent than the baseline ceiling, their current sweeping frequency serves as their baseline.

The City of Menlo Park's baseline street sweeping program includes sweeping most streets in residential areas once per month during the dry season and weekly during the wet season, the downtown area twice per week all year long, and sweeping arterial roads once per month during the dry season and weekly during the wet season.

The City of Menlo Park's current street sweeping program includes sweeping several areas on a consistent yearly schedule, and sweeping other areas on a seasonal basis. Areas that are swept on a consistent yearly schedule include the central business district (two times per week). All other residential and commercial areas are swept once per week during the months that typically exhibits the greatest precipitation (November – February). During months that typically exhibit less precipitation (March, April, and October), areas are swept once every two weeks. During months that are typically driest (May – September), areas are swept once every four weeks.

Parking enforcement signs for street sweeping are not posted in the City, but parking enforcement equivalent occurs in some areas of the central business district, commercial areas, and on major arterials leading to US 101 and Interstate 280. The estimated trash load reduced via baseline street sweeping is presented in Table 2-3.

Baseline Storm Drain Inlet Maintenance

Within the City, storm drain inlets were cleaned at a baseline level of one time per year prior to the effective date of the MRP. Based on this baseline frequency and the effectiveness rating developed in BASMAA (2012b), the baseline storm drain maintenance program in the City of Menlo Park has an annual effectiveness rating of 5%. The estimated trash load reduced via baseline storm drain inlet maintenance is presented in Table 2-3.

Baseline Stormwater Pump Station Maintenance

The City of Menlo Park owns and maintains six stormwater pump stations. Of these stations, two have trash racks that capture trash and allow for removal during maintenance. For those pump stations with trash racks, the estimated volume of trash removed annually from each pump station prior to the effective date of the MRP is considered the baseline level of implementation. To determine the baseline volume of trash removed from pump stations, an effectiveness rating of 25% removal of the baseline trash load attributable to the area draining to the pump station is assumed. This effectiveness rating is based on methods developed in BASMAA (2012b). The estimated trash load reduced via baseline pump station maintenance is presented in Table 2-3.

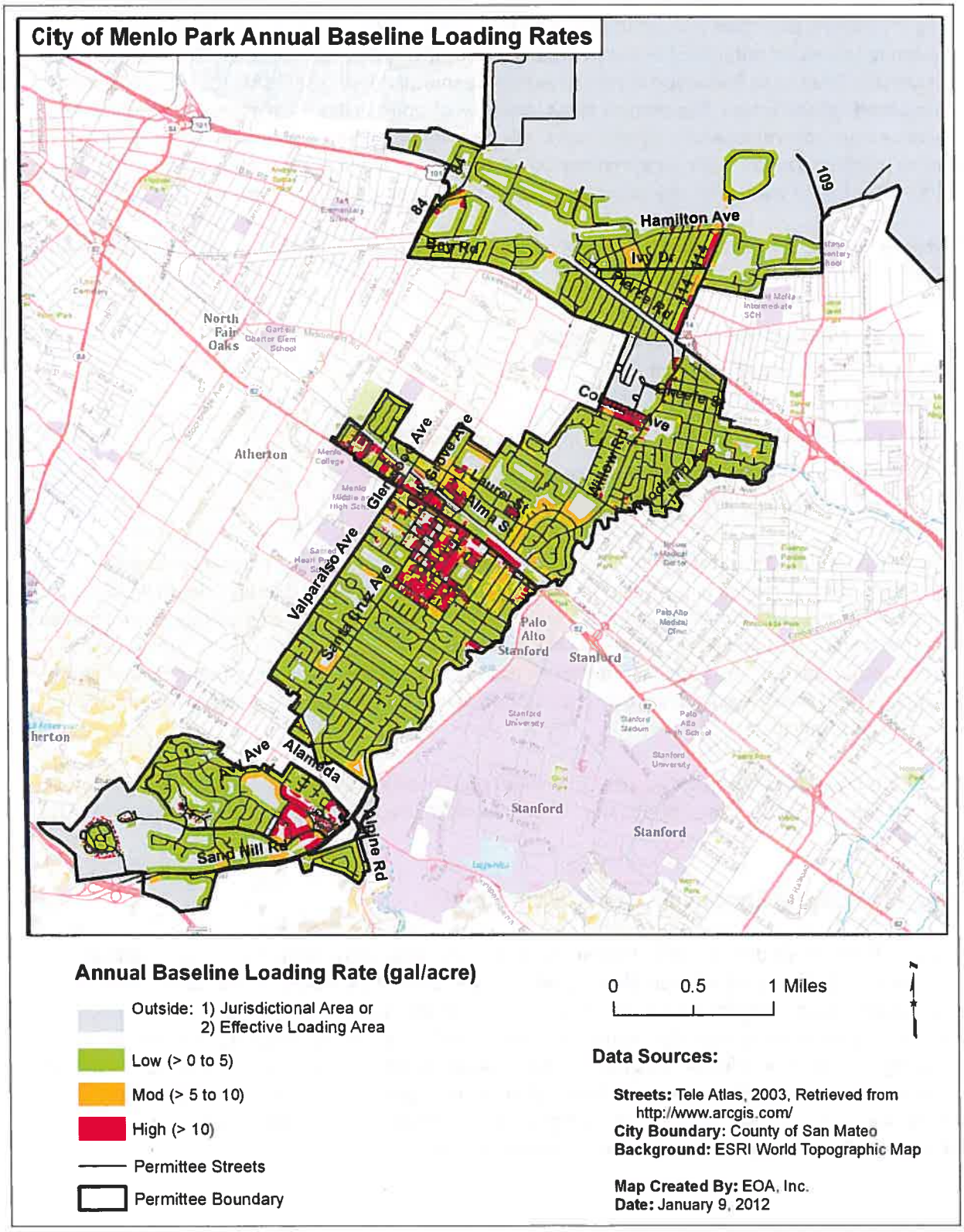
Baseline Trash Loading Estimate

The estimated baseline trash load from the City of Menlo Park was calculated as the sum of the loads from the City's effective loading area, adjusted for baseline implementation of street sweeping, storm drain inlet maintenance, and pump station maintenance. The preliminary annual trash baseline load for the City of Menlo Park is presented in Table 2-3. Preliminary baseline trash loading rates are presented in Figure 2-1 to provide a geographical illustration of areas with estimated low, moderate, high and very high trash loading rates.

Table 2-3: Preliminary annual trash baseline load for the City of Menlo Park.

Category	Annual Load (gallons)
Preliminary Generation Trash Load	14,408
Load Removed via Baseline Street Sweeping	5,698
Load Removed via Baseline Storm Drain Inlet Maintenance	436
Load Removed via Baseline Stormwater Pump Station Maintenance	132
Preliminary Trash Baseline Load	**8,143**

Figure 2-1: Estimated trash baseline loading rates for geographical areas in the City of Menlo Park.



3.0 LOAD REDUCTION CALCULATION PROCESS

Using the guiding principles and assumptions described BASMAA (2011e), a stepwise process for calculating trash load reductions was developed collaboratively through BASMAA. This process is fully described in Trash Load Reduction Tracking Method Technical Report (BASMAA 2011e) and is briefly summarized in this section. The process takes into at what point in the trash generation and transport process a trash control measure: 1) prevents trash generation, 2) intercepts trash in the environment prior to reaching a water body, or 3) removes trash that has reached a water body. In doing so, it avoids double-counting of trash load reductions associated with specific control measures.

To demonstrate trash load reductions, baseline trash loading rates will be adjusted using the following process:

Step #1: Existing Enhanced Street Sweeping

Step#2: Trash Generation Reduction

Step #3: On-land Interception

Step #4: Trash Interception in the Stormwater Conveyance System

Step #5: Trash Interception in Waterways

Step #6: Comparison to Baseline Trash Load

Reductions calculated in Steps 2 and 5 are assumed to be implemented at a constant rate on an "area-wide" basis. For example, if a new region-wide public education strategy is implemented within the San Francisco Bay area, all Permittees can apply load reduction credits associated with this control measure. In contrast, Steps 1, 3 and 4 are "area-specific" reductions that only apply to specific areas within a Permittee's jurisdiction. Area-specific control measures include full-capture treatment devices and enhanced street sweeping. Area-specific reductions may require the use of a Geographic Information System (GIS) to calculate.

Reductions are generally applied in the sequence as presented in Figure 2-1 and described below, although some reductions may be applied "in-parallel" and calculated during the same sub-step in the process.

Step #1: Existing Enhanced Street Sweeping

Trash load reductions due to existing enhanced street sweeping implemented prior to the effective date of the MRP and conducted at levels above baseline levels are not incorporated into each Permittee's trash baseline load. Therefore, load reductions associated with existing enhanced are accounted for first in the trash load reduction calculation process. Existing enhanced street sweeping includes street sweeping conducted at a frequency greater than **once per week** for streets within retail land use areas or greater than **twice per month** for streets in all other land use areas. The result of adjustments made to trash baseline loads due to the implementation of existing enhanced street sweeping is a set of **current baseline loading rates** and a **current baseline load**.

Step #2: Trash Generation Reduction Control Measures

Trash generation reduction control measures prevent or greatly reduce the likelihood of trash from being deposited onto the urban landscape. They include the following area-wide control measures:

CR-1: Single-Use Carryout Plastic Bag Ordinances

CR-2: Polystyrene Foam Food Service Ware Ordinances

CR-3: Public Education and Outreach Programs

CR-4: Reduction of Trash from Uncovered Loads

CR-5: Anti-Littering and Illegal Dumping Enforcement

CR-6: Improved Trash Bin/Container Management

CR-7: Single-Use Food and Beverage Ware Ordinances

Load reductions associated with trash generation reduction control measures are applied on an area-wide basis.[2] Therefore, reductions in current baseline loading rates are adjusted uniformly based on the implementation of the control measure and the associated credit claimed.

Baseline loading rate adjustments for all generation reduction controls measures implemented may be applied in-parallel, but should be applied prior to calculating on-land interception measures discussed in Step #3. The result of adjustments to trash baseline loading rates due to the implementation of these enhanced control measures will be a set of **street loading rates**. The **street load** is the volume of trash estimated to enter the environment and available for transport to the MS4 if not intercepted via on-land control measures described in Step #2.

Step #3: On-land Interception Control Measures

Once trash enters the environment, it may be intercepted and removed through the following control measures prior to reaching the stormwater conveyance system:

QF-1: On-land Trash Cleanups (Volunteer and/or Municipal) (Area-wide)

QF-2: Enhanced Street Sweeping (Area-specific)

Since on-land trash cleanups can affect the amount of trash available to street sweepers, load reductions associated with their implementation will be quantified first, followed by street sweeping enhancements. On-land trash cleanups will be applied as an area-wide reduction and all effective loading rates will be adjusted equally. Enhanced street sweeping, however, is an area-specific control measure and only those effective loading rates associated with areas receiving enhancements will be adjusted. Due to the spatial nature of enhanced street sweeping, GIS may be needed to conduct this step.

The result of adjustments to effective loading rates due to the implementation of these enhanced control measures will be a set of **conveyance system loading rates**. The **conveyance load** is the volume of trash estimated to enter the stormwater conveyance system (e.g., storm drains).

[2] The only exception to this statement are load reductions associated with the establishment of Business Improvement Districts (BIDs) or equivalent, which are specific to geographic areas and considered "area-specific".

Step #4: Control Measures that Intercept Trash in the MS4

Control measures that intercept trash in the stormwater conveyance system are area-specific. Therefore, they only apply to land areas and associated trash loads reduced. Conveyance system loading rates developed as a result of Step #3 should be adjusted in-parallel for the following control measures:

- QF-3a: Partial-capture Treatment Device: Curb Inlet Screens (Area-specific)
- QF-3b: Partial-capture Treatment Device: Stormwater Pump Station Trash Racks Enhancements (Area-specific)
- QF-4: Enhanced Storm Drain Inlet Maintenance (Area-specific)
- QF-5: Full-Capture Treatment Devices (Area-specific)

Load reductions for these control measures are calculated in-parallel because they are applied to independent geographical areas. Reductions from all control measures described in this step are area-specific and may require the use of GIS to calculate a set of **waterway loading rates**. Once waterway loading rates have been determined, a **waterway load** will be developed and used as a starting point for calculating load reductions associated with trash interception in waterways discussed in Step #5.

Step #5: Control Measures that Intercept Trash in Waterways

The load of trash that passes through the stormwater conveyance system without being intercepted may still be removed through interception in waterways. There are two control measures associated with interception in waterways:

- QF-3c: Partial-capture Treatment Device: Litter Booms/Curtains (Area-wide)
- QF-7: Creek/Channel/Shoreline Cleanups (Volunteer and/or Municipal) (Area-wide)

As these control measures are implemented, load reduction estimates can be calculated in-parallel for these two measures.

Step #6: Comparison to Baseline Trash Load

Applying the four steps described in the processes above will provide an estimated trash load (volume) remaining after trash control measures are implemented. As depicted in the following equation, the relative percent difference between the baseline load and the load remaining after control measures are implemented is the percent reduction that will be used to assess progress towards MRP trash load reduction goals.

$$\frac{\text{Baseline Load} - \text{Remaining Load}}{\text{Baseline Load}} = \%\ \text{Reduction}$$

4.0 ENHANCED TRASH CONTROL MEASURES

This section describes the new or enhanced trash control measures planned for implementation by the City of Menlo Park. The enhanced control measures described are designed to reach a 40% reduction by July 1, 2014. New and enhanced control measures that will be implemented by the City of Menlo Park include those listed in Table 4.1.

Table 4.1- Trash control measures that will be implemented by the City of Menlo Park to reach the 40% trash load reduction

Control Measure
Single-use Carryout Plastic Bag Ordinances
Polystyrene Foam Food Service Ware Ordinances
Public Education and Outreach Programs
Improved Trash Bin/Container Management (Municipally or Privately-Controlled)
Enhanced Street Sweeping
Full-Capture Treatment Devices

CR-1: Single-use Carryout Plastic Bag Policy

Single-use plastic carryout bags have been found to contribute substantially to the litter stream and have adverse effects on marine wildlife (United Nations 2009, CIWMB 2007, and County of Los Angeles 2007). The prevalence of litter from plastic bags in the urban environment also compromises the efficiency of systems designed to channel storm water runoff, and leads to increased clean-up costs for the Permittees and other public agencies. Furthermore, plastic bags are not accepted in Menlo Park's recycling program, and a policy discouraging or reducing single-use carryout bags would assist Menlo Park in meeting a new state goal to reduce waste sent to the landfill by 75% by 2020.

Based on recent experiences of municipalities throughout the State, the process Permittees must go through to enact a single-use carryout plastic bag policy/ordinance is difficult due to intense scrutiny and opposition from not only public interest groups and lobbyists, but also merchants and community members. In most cases, most opposition groups are pressing for the development of Environmental Impact Reports (EIRs) in accordance with the California Environmental Quality Act (CEQA).

Baseline Level of Implementation

Prior to adoption of the MRP, Permittees within the Bay area have enacted policies or ordinances on Single-use Carryout Plastic Bags. To avoid penalizing these early implementers, an applicable control measure implemented by a Permittee prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is not applicable for this control measure.

Enhanced Level of Implementation

The City of Menlo Park plans to adopt an ordinance prohibiting the distribution of single-use carryout plastic bags. The ordinance would prohibit the distribution of single use plastic bags at all retail establishments with a possible exemption for restaurants. The ordinance will also include charging consumers a minimum fee for using single use paper bags instead of reusable bags; this fee would then be retained by the retail business distributing the single use paper bags.

In January 2012, the San Mateo County Health Department hosted a meeting to discuss a regional approach to prohibiting the distribution of single use carryout plastic bags. City staff from Menlo Park attended the meeting as well as other staff from surrounding agencies.

The County is proposing to complete an Environmental Impact Report (EIR) that would allow cities in San Mateo County to implement an ordinance that would prohibit the distribution of single use carryout plastic bags. In addition, the EIR would also allow a minimum fee to be charged for single use paper bags; this fee would then be retained by the retail establishment. The county would like to receive feedback by the end of February 2012 from cities in San Mateo County on:

1. Whether they would like to be a participant in the EIR; and

2. If cities choose to participate, they would commit to taking the lead on outreach within their jurisdiction during the EIR process, which would include public education and outreach to both retail establishments and consumers; and

3. Consider adopting, by reference, the county's ordinance if it is passed by the Board of Supervisors, which is estimated to become effective January 1, 2013.

Menlo Park is also in the unique position of being able to implement an ordinance without an EIR due to its small population size. Last summer, the California Supreme Court determined that a Negative Declaration is appropriate for small cities with a population under 40,000 to file a Negative Declaration instead of an EIR.

City staff will be requesting direction from the City Council in February 2012 on whether to participate in the countywide EIR process or to consider a project that would include a Negative Declaration that would prohibit the distribution of single use carry out plastic bags.

The ordinance will require adoption by the City Council, and if approved, would become effective on or before July 1st, 2014. In addition, the City's Environmental Programs Unit will implement a community engagement and education campaign designed to significantly reduce overall usage of ALL types of single use carryout bags prior to and during the ordinance's implementation. The total percent trash reduced from MS4s as a result of implementing a single-use carryout plastic bag ordinance will be reported in the Annual Report submitted each September to the Water Board.

Percent Reduction from Enhancements

The City of Menlo Park will receive a 12 percent reduction credit for implementing specific enhanced control measures described in Enhanced Level of Implementation section above. The 12 percent reduction credit will be applied to the City of Menlo Park's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2011e). A summary of all load reductions anticipated through the implementation of this plan are included in Section 4.0.

CR-2: Polystyrene Foam Food Service Ware Policy

Polystyrene foam is used as food ware in the food service industry. According to the USEPA, floatable debris in waterways, such as products made of polystyrene, is persistent in the environment and has physical properties that can have serious impacts on human health, wildlife, the aquatic environment and the economy (USEPA 2002). Due to its properties, polystyrene foam used as food ware is typically not recycled. Since 1990, over 100 government agencies within the United States, including over twenty within the Bay area have enacted full or partial bans on polystyrene foam food service ware.

Baseline Level of Implementation

Prior to adoption of the MRP, over twenty agencies within the Bay area enacted full or partial bans on polystyrene foam food service ware. To avoid penalizing these early implementers, an applicable control measure implemented by a Permittee prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is not applicable for this control measure.

Enhanced Level of Implementation

The City of Menlo Park plans to adopt an ordinance prohibiting polystyrene based disposable food service ware at the point of sale. Menlo Park's ordinance would mirror San Mateo County's polystyrene ordinance that was implemented in 2011, which regulates not only foam based polystyrene, but also specific types of solid oriented polystyrene. San Mateo County's ordinance includes expanded polystyrene, polystyrene that has been expanded or blown using a gaseous blowing agent into a solid foam (expanded polystyrene (EPS)), and clear or solid polystyrene known as oriented polystyrene.

The ordinance would specifically regulate single-use disposable products used in the restaurant and food service industry for serving or transporting prepared, ready-to consume food or beverages. This includes but is not limited to plates, cups, bowls, trays and hinged or lidded containers, also known as clamshells. The San Mateo County ordinance currently excludes straws, utensils, and cup lids. The City of Menlo Park may exclude these products based on further cost comparisons of alternative compostable or recyclable products. The ordinance will not include regulating disposable packaging for unprepared foods, such as meat trays used to sell cuts of meat in grocery stores.

Between January and July 2012, Menlo Park Environmental Program staff will survey food establishments on types of single use disposal products that are currently used, and also provide

education to food establishment owners on the cost differences between compostable or recyclable single use disposable products and polystyrene based products. Staff will also develop a community engagement plan to provide adequate notice to food establishments about the proposed ordinance, and to receive feedback regarding specific requirements or conditions in the proposed ordinance. Once the community engagement component is complete, staff will bring the ordinance to the city council for consideration. If adopted by the City Council, San Mateo County will enforce the ordinance through county health inspections.

The ordinance would require City Council adoption, and if approved, would become effective on or before July 1st, 2014. The percent trash reduction from MS4s as a result of implementing a polystyrene foam food service ware ordinance will be reported in the Annual Report submitted each September.

Percent Reduction from Enhancements

The City of Menlo Park will receive an eight percent reduction credit for implementing specific enhanced control measures described in Enhanced Level of Implementation section above. The eight percent reduction credit will be applied to the City's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2011e). A summary of all load reductions anticipated through the implementation of this plan are included in Section 4.0.

CR-3: Public Education and Outreach Programs

Permittees in the San Francisco Bay Area have implemented public education and outreach programs to inform residents about stormwater issues relating to pollutants of concern, watershed awareness and pollution prevention. Public education and outreach efforts include developing and distributing brochures and other print media; posting messages on websites and social networking media (Facebook, Twitter etc.), attending community outreach events, and conducting media advertising. In recent years, some municipal agencies have implemented anti-litter campaigns to increase public awareness about the impacts of litter on their communities and water quality; and to encourage the public to stop littering.

Baseline Level of Implementation

The City of Menlo Park has implemented public education and outreach control measures prior to the effective date of the MRP. The city has regularly tabled events, produced brochures, and created local television slides to educate the public about storm water pollution prevention behaviors. These control measures are considered baseline because they were either not related to trash reduction specifically, or they are not planned to be continued during the term of the MRP. New actions or actions started prior to the effective date of the MRP and continued into the future are described under the next section.

Enhanced Level of Implementation

The City of Menlo Park will implement the following public education and outreach control measures prior to July 1, 2014.

Litter Reduction Advertising Campaign(s)

BASMAA Youth Outreach Campaign (Regional)

Through participation and funding of the regional **BASMAA Youth Outreach Campaign** the City will implement an outreach campaign designed to reduce littering from the target audience in the Bay Area. The Youth Outreach Campaign was launched in September 2011 (post-MRP effective date) and aims to increase the awareness of Bay Area Youth (ages 16-24) on litter and stormwater pollution issues, and eventually change their littering behaviors. Combining the ideas of Community Based Social Marketing with traditional advertising, the Youth Campaign aims to engage youth to enable the peer-to-peer distribution of Campaign messages. The Campaign will at least run from FY 11-12 through FY 13-14. A brief description of the Campaign activities is provided below:

- Raising Awareness: The Campaign will begin by raising awareness of the target audience on litter and stormwater pollution issues. Partnerships with youth commissions, high schools, and other youth focused organizations will be developed to reach the target audience. Messages targeted to youth will be created and distributed via paid advertising, email marketing, Campaign website and social networking sites (e.g. Facebook and twitter).

- Engage the Youth - The advertisements will encourage the audience to participate in the Youth Campaign by joining a Facebook page, entering a contest, taking an online quiz, etc., and providing their contact information. At the beginning of FY 12-13, a video contest will be launched to get Bay Area youth further involved in the Campaign. An online voting system will be used to select the winning entry. Media advertising will be conducted to promote the winning entry.

- Change Behaviors: To move the audience along the behavior change continuum, the Campaign will use electronic platforms such as email marketing and social networking sites to encourage participants to engage in increasingly more difficult behavior changes, such as participating in a clean-up, organizing a clean-up, etc.

- Maintain Engagement: The Campaign will continue to interact with the target audience through email marketing and social media websites.

The Youth Campaign will include a pre and post campaign survey to evaluate the effectiveness of outreach. The pre-campaign survey will be conducted in FY 11-12 and the post campaign survey in FY 13-14. Other evaluation mechanisms, such as website hits, number of youth engaged in the Campaign's social networking website, etc. will also be used to evaluate its effectiveness in increasing awareness and changing behavior.

Outreach to School-age Children or Youth

Countywide Programs

Through participation and funding of the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), the City plans to continue to implement litter reduction outreach to school-age children and youth. SMCWPPP currently oversees two contracts to provide direct outreach to grades K-12 in a school setting on behalf of all permittees. The contract for grades K-5 is currently held by the Banana Slug String Band, which performs a presentation called "We All Live Downstream." Through songs and interactive exercises, the message of not putting anything in the stormdrains (including trash) is delivered, along with basic concepts of the water cycle and the impact of pollution on aquatic life. The second contract is held by Rock Steady Science, which presents "Water Pollution Prevention and Your Car" to high school students. A portion of this presentation is dedicated to watershed and stormdrain education, and the impact of litter on local creeks and waterways. Both contracts are managed to ensure that schools in each community in the County are reached. For communities without High Schools, the feeder schools in neighboring communities are specifically targeted for presentations. In addition to outreach at the school sites, a number of student activity guides and coloring books related to watershed health and littering are provided to children who attend outreach events. Schools are also directly targeted in promotion of Coastal Cleanup Day.

In addition to the programs described above, *Recycleworks*, a branch of San Mateo County Public Works dedicated to promotion of recycling solid waste, plans to continue to conduct litter reduction activities. These include participating in the green schools program in which a school gets certified by achieving goals set from a menu of categories, one of which is litter reduction. In addition, *Recycleworks* conducts school assemblies and field trips focusing on litter reduction and recycling. They also conduct waste audits at schools to encourage waste reduction, and staff outreach events at schools. PIP is exploring the possibility of teaming up with *Recycleworks* to continue outreach to junior high and high school students after June 2012, when the current contract with Rock Steady Science expires.

Media Relations

BASMAA Regional Media Relations Project (Regional)

Through participation and funding of the **BASMAA Regional Media Relations Project**, the City plans to continue to implement a media relations project partially designed to reduce littering from target audiences in the Bay Area. The goal of the BASMAA Media Relations Project is to generate media coverage that encourages individuals to adopt behavior changes to prevent water pollution, including littering. At least two press releases or public service announcements focus on litter issues each year (e.g., creek clean-up activities, preventing litter by using reusable containers, etc.).

Coastal Cleanup Day Promotion (Countywide)

On the countywide level, SMCWPPP also conducts annual press releases for Coastal Cleanup Day, and uses Twitter to promote cleanup events. These releases are intended to gain support and assistance for cleanup events conducted each September in local water bodies.

Community Outreach Events

SMCWPPP, through its Public Information and Participation (PIP) program, plans to continue to conduct community outreach events on behalf of Permittees who request support. Outreach materials related to litter that are distributed include, in addition to the children's materials listed above under Outreach to School-age Children or Youth, a promotional sign for cigarette smokers to discourage cigarette litter, and pocket ashtrays are given out. A general stormwater pollution prevention flyer in English and Spanish that includes litter reduction in its messaging is distributed. In addition to table outreach events conducted for specific permittees, PIP also conducts a Countywide Event aimed to reach residents from throughout the county. PIP manages an online calendar which promotes cleanup events by non-profit organizations throughout the county. In FY 2011, PIP completed its 6th year acting as the county coordinator for Coastal Cleanup Day, increasing volunteer participation by 400% in that time, and trash removal increased by 300%.

During the term of the MRP, new outreach materials are also being considered for dissemination to the public, including reusable shopping bags to encourage reduction in use of plastic carryout bags. In addition, spring cleanups taking place in individual jurisdictions are planned to be promoted under one theme by PIP, who will assist directing volunteers to cleanup events in their communities. SMCWPPP is planning to conduct a total of 10-12 outreach events on behalf of various jurisdictions within the county in the 2011-12 fiscal year. SMCWPPP will also continue maintaining an online calendar of cleanups on a monthly basis.

The City of Menlo Park annually coordinates a volunteer site for Coastal Clean Up Day at San Francisquito Creek to educate residents about the impacts of litter in waterways, and every year, Environmental Program staff attend Menlo Park's annual summer Block Party to educate attendees about stormwater pollution prevention behaviors, which includes antilittering messages. In addition, Menlo Park annually participates in stormwater pollution education with SMCWPPP at the county fair.

Percent Reduction from Enhancements

The City of Menlo Park will receive a total of eight percent reduction credit for implementing specific enhanced control measures described in *Enhanced Level of Implementation* section above. This percent reduction is comprised of the following credits, consistent with the *Load Reduction Tracking Method*:

- Litter Reduction Advertising Campaigns – 3%
- Outreach to School-age Children or Youth – 2%
- Media Relations – 1%
- Community Outreach Events - 2%

An eight percent reduction credit will be applied against the City of Menlo Park's baseline trash load. This percent reduction credit is consistent with methods presented in the BASMAA (2011e). A summary of all load reductions anticipated through the implementation of this plan are included in Section 4.0.

CR-6: Improved Trash Bin/Container Management

Receptacles used to place/store trash or recyclables prior to collection by a public agency or private waste hauler reduce the potential for littering and trash loading to stormwater conveyance systems and receiving waters (City of Los Angeles 2004). For the purposes of assigning trash load reduction credits, receptacles fall into the following two categories:

- **Private Trash/Recycling Bins**: A receptacle for placing trash or recyclables generated from a household, business, or other location that is serviced by a trash hauler. Bins are specifically-designed, heavy-duty plastic wheeled containers with hinged lids; or large multi-yard metal or plastic containers rectangular in shape.
- **Public Area Trash Containers**: A receptacle for placing incidental trash generated in public spaces that provides people with a convenient and appropriate place to dispose of trash. The design and size of public area trash containers vary widely, depending on their setting and use.

The effectiveness of bins/containers and bins in reducing trash in the environment is likely dependent upon: the location and density of the receptacles, size of the bin/container in relationship to the size needed to service users, frequency of maintenance, and the ability of the bin/container to capture and contain the trash deposited.

Baseline Level of Implementation

The baseline trash load described in Section 2.0, assumes that the City of Menlo Park has not implemented enhanced trash bin/container management practices prior to effective date of the MRP. The city has actively worked towards providing adequate and usable public area trash containers throughout the City. For example, in some locations where pizza boxes are regularly disposed of in public receptacles, the city has installed modified trash containers that have openings large enough to dispose and contain pizza boxes.

Enhanced Level of Implementation

The City of Menlo Park will implement the following improved trash bin/container management practices prior to July 1, 2014. Specifically, the City will develop a strategic plan for public area trash containers to further reduce public litter. The plan will:

- Identify whether public area trash containers are sufficiently located in high trash generating areas and are adequately designed to manage trash types that typically are generated from activities occurring at these areas (e.g. containers with larger openings designed to accommodate larger trash items like pizza boxes are in locations where people dispose of these items, such as parks or near schools).
- Identify where increased level of inspection and maintenance of public area trash containers is needed at high trash generating sites.
- Include installation of specialty trash bins/containers (e.g. bins for cigarette ends, sharps, etc.) in specific locations to eliminate or reduce the prevalence of these items in stormwater.
- Include the installation of new technologies (e.g. Big Belly Solar Trash Compactors) to reduce trash in stormwater and reduce the cost of adding public area trash containers.

The city's Environmental Program and Maintenance staff will work collaboratively to identify appropriate sites and technologies, and utilize funding from the city's annual Beverage and Container Recycling Grant from CalRecycle to develop and implement the plan.

The strategic plan will provide recommendations on how the system of public area trash containers within the City may be enhanced to reduce the volume of trash in streets, the stormwater conveyance system and waterways. The recommendations in the plan will be implemented prior to receiving trash reduction credits associated with this control measure.

Percent Reduction from Enhancements

The City of Menlo Park will receive a three percent reduction credit for implementing specific enhanced control measures described in *Description of Enhanced Level of Implementation* section above. The three percent reduction credit will be applied to the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the City of Menlo Park. This percent reduction credit was obtained from the *Trash Load Reduction Tracking Method Report* (BASMAA 2011e) and is presented in the Trash Load Reduction Summary Table included in Section 4.

QF-2: Enhanced Street Sweeping

Street sweeping is conducted by most, if not all, Bay Area municipalities to remove trash and debris that collect in the gutters at the edge of streets. Parked cars and large storms that produce significant runoff can impact the effectiveness of street sweepers. However, increasing parking enforcement or more frequent street sweeping (as compared to the frequency of storm events) may increase the trash load reduced to MS4s. Permittees who choose to enhance street sweeping may do so to demonstrate trash load reductions to their MS4s and progress towards trash load reduction goals required by the MRP.

Baseline Level of Implementation

The baseline trash load described in Section 2.0 incorporates the trash load reductions due to baseline street sweeping. The City of Menlo Park's baseline street sweeping program includes sweeping at a frequency of one time per week on average in retail areas and one to two times per month on average in all other areas.

Parking enforcement signs for street sweeping are not posted in the City, but parking enforcement equivalent occurs in the central business district, in other commercial areas, and on major arterials leading to US 101 and Interstate 280. The city has a policy of no overnight parking until the late morning hours in these areas, which allows for street sweepers to access the curb. No parking signage is located in these areas to inform drivers of the City's policy.

Enhanced Level of Implementation

Enhancements to street sweeping frequencies and parking enforcement (or equivalent measures) control measures will be used to calculate loads reduced from enhanced street sweeping, consistent with the trash load reduction tracking method (BASMAA 2011e).

The City of Menlo Park's baseline street sweeping program includes sweeping most streets in residential areas once per month during the dry season and weekly during the wet season, the downtown area twice per week all year long, and sweeping arterial roads once per month during the dry season and weekly during the wet season.

The City of Menlo Park's baseline street sweeping program also includes sweeping several areas on a consistent yearly schedule, and sweeping other areas on a seasonal basis. Areas that are swept on a consistent yearly schedule include the central business district (two times per week). All other residential and commercial areas are swept once per week during the months that typically exhibits the greatest precipitation (November – February). During months that typically exhibit less precipitation (March, April, and October), areas are swept once every two weeks. During months that are typically driest (May – September), areas are swept once every four weeks. See Figure 3.1 for Menlo Park's street sweeping zones and frequencies.

Parking enforcement signs for street sweeping are not posted in the City, but parking enforcement equivalent occurs in some areas of the central business district, commercial areas, and on major arterials leading to US 101 and Interstate 280. The city has a policy of no overnight parking until the late morning hours in these areas, which allows for street sweepers to access the curb. No parking signage is also located in these areas to inform drivers of the City's policy. See Figure 3.2 for Menlo Park's no parking zones that occur during early morning street sweeping times.

Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced by July 1, 2014 as a result of enhanced street sweeping is 655 gallons. As described in Trash Load Reduction Summary Table included in Section 4, this volume is equal to approximately a eight percent reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the City of Menlo Park.

Figure 3.1- Menlo Park's Street Sweeping Schedule and Zones

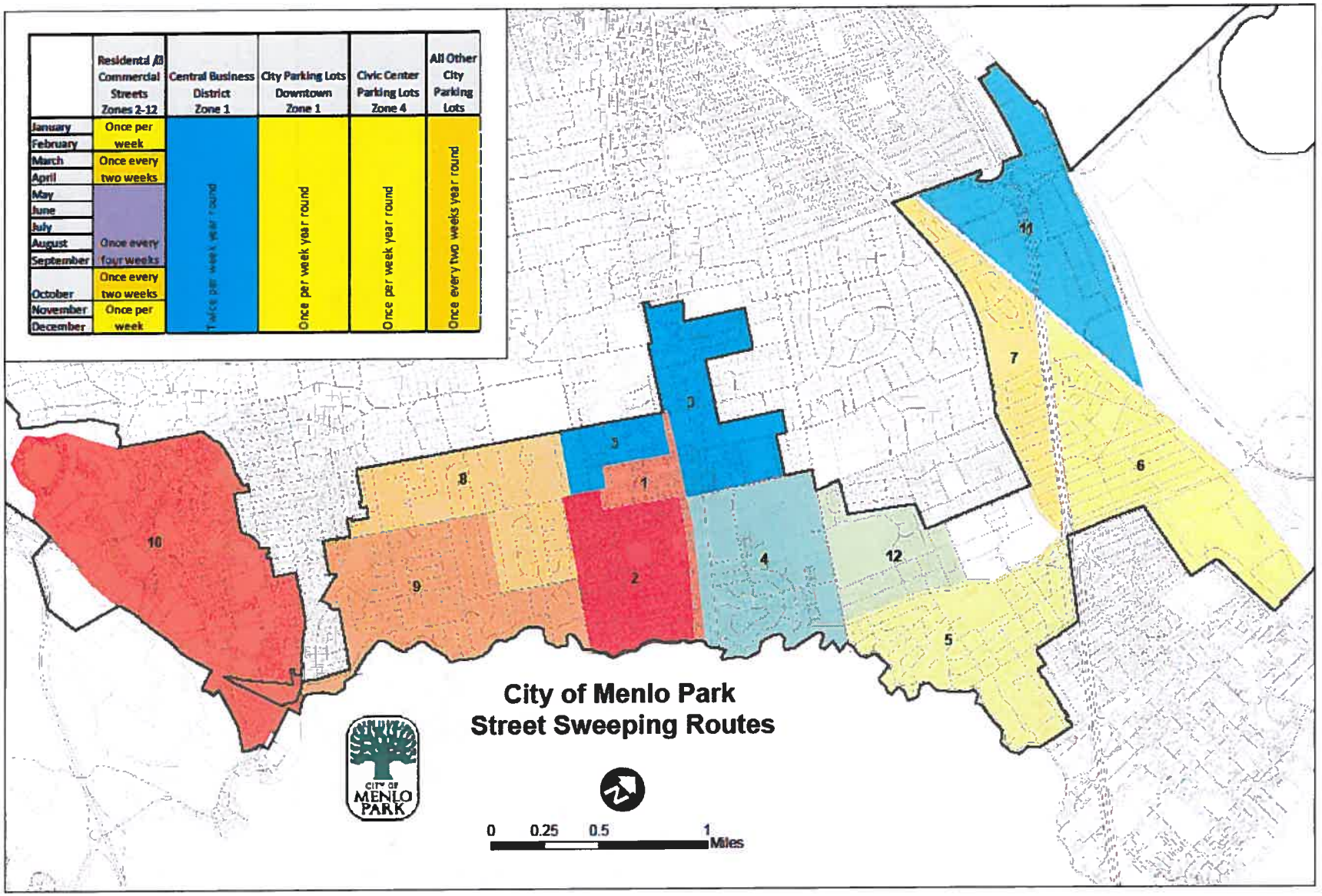
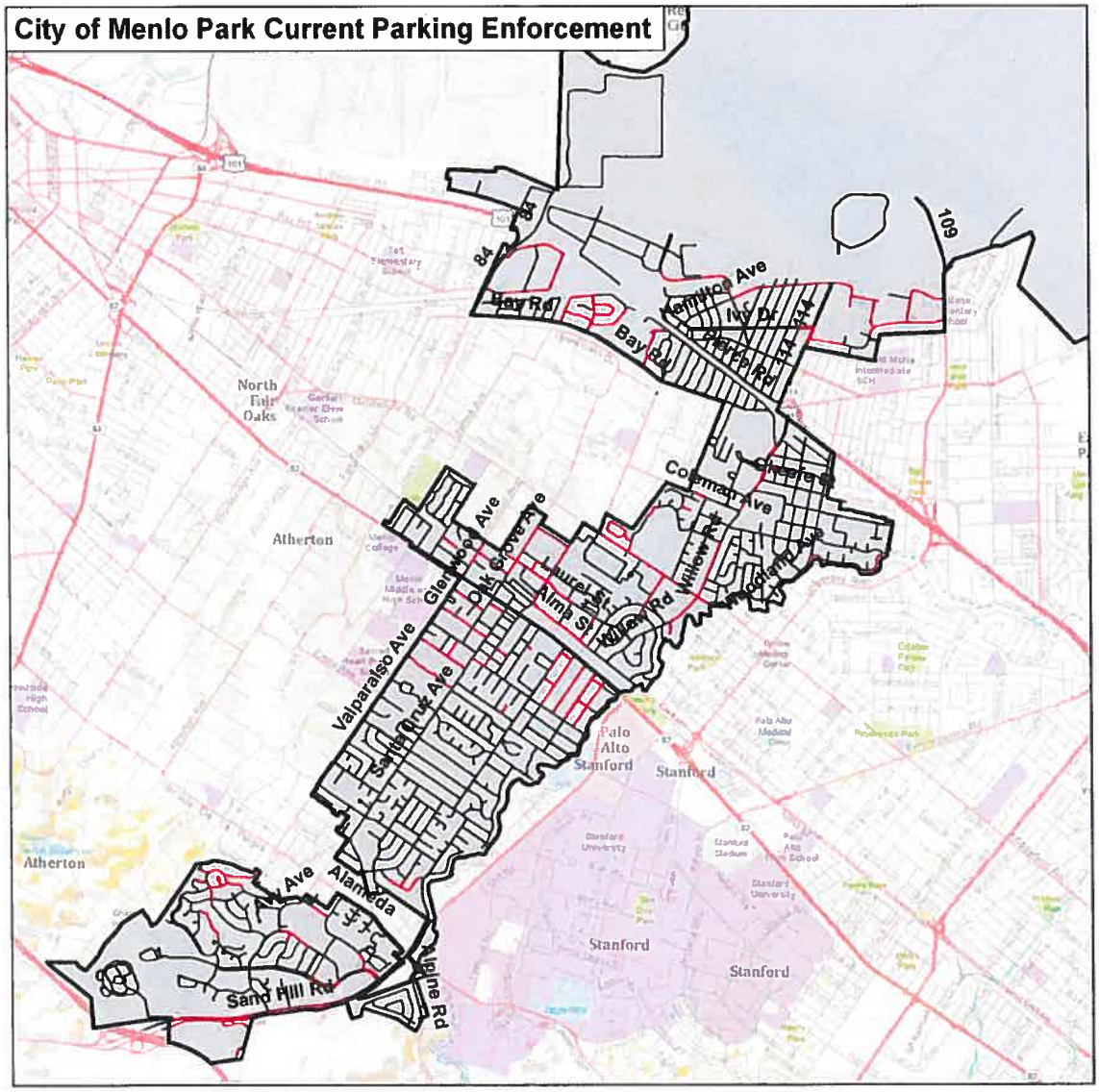


Figure 3.2- Menlo Park's Parking Enforcement Equivalents to Street Sweeping Schedule
Note: Red lined areas indicate parking enforcement times that coincide with early morning street sweeping times.



QF-5: Full-Capture Treatment Devices

As defined by the Municipal Regional Stormwater Permit (MRP), a full-capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the sub-drainage area. A list of the full-capture systems and devices recognized by the San Francisco Bay Regional Water Quality Control Board (Water Board) is included in *Trash Load Reduction Tracking Method Report* (BASMAA 2011e). Trash loads reduced via publically or privately owned and operated devices within a Permittee's jurisdictional area that have been recognized by the Water Board as full-capture may be used to demonstrate attainment of trash load reduction goals.

Baseline Level of Implementation

Prior to adoption of the MRP, some Pemittees installed and maintained full capture devices. To avoid penalizing these early implementers, an applicable control measure implemented within a Permittee's jurisdictional area prior to the effective date of the MRP will be credited equally to a control measure implemented after the effective date. Therefore, the baseline level of implementation is no trash full-capture devices have been installed.

Enhanced Level of Implementation

A total of 18 trash full-capture treatment devices have been or will be installed in the City of Menlo Park prior to July 1, 2012. A list of these full-capture devices are included in Table QF-6-1. All devices listed within this table are enhanced trash control measures. Table QF-6-1 also includes the area treated and the calculated trash load reduced from each full-capture treatment device. These calculations are consistent with the approach described in the *Trash Load Reduction Tracking Method Report* (BASMAA 2011e). Menlo Park is also earmarked to receive regional funding to offset the cost of installing 12 full capture treatment devices.

Percent Reduction from Enhancements

The total estimated annual volume of trash that will be reduced by July 1, 2014 as a result of implementing full capture devices is 432 gallons. This volume is equal to approximately a 5.3% percent reduction in the baseline trash load to urban creeks from the municipal separate storm sewer system (MS4) owned and operated by the City of Menlo Park. Both values provided within this section are included in Trash Load Reduction Summary Table included in Section 4.

Table QF 6.1- Trash full-capture treatment devices within the jurisdictional boundaries of the City of Menlo Park that are planned for installation by July 1, 2014 or are already installed.

Land Use	Public or Private	Device Name	Location (Cross Streets)	Installation Date/Anticipated Installation Date	Total Area Treated (acres)	Trash Load Reduced (gallons/year)
TBD	*Public*	*Trashguard*	To be determined-12 devices will be installed in retail high trash generating areas	Spring 2012	33.8	363
Commercial	Private	CDS Unit	1906 El Camino Real	Already Installed	2.8	17
School	Private	CDS Unit	1100 Elder Ave	Already Installed	2.8	17
High Density Housing	Private	CDS Unit	161 Linfield Drive	Already Installed	2.8	7
High Density Housing	Private	CDS Unit	301 Homewood Place		2.8	7
Commercial	Private	Contech Filter Unit	100 Middlefield Road- NW Corner	Already Installed	2.8	7
Commercial	Private	CDS Unit	2400,2420,2440,2460,2480,2490,2494,2498 Sand Hill Road- In Parking Lot	Already Installed	2.8	13

5.0 SUMMARY OF TRASH CONTROL MEASURE ENHANCEMENTS

The City of Menlo Park is committed to reducing the potential for trash impacts in local water bodies in the San Francisco Bay Area. The planned enhanced trash control measures described in Section 3.0 are also listed in Table 4-1. The enhancements are intended to comply with the 40% trash load reduction goal in MRP provision C.10, which would require the City of Menlo Park to prevent 3,257 gallons of trash from entering the MS4. Menlo Park's enhanced control measures include a:

- Single-Use Carry Out Bag Policy
- Polystyrene Food Service Ware Policy
- Public Education and Outreach Programs
- Development and Implementation of a Strategic Plan for Public Area Trash Containers
- Enhanced Street Sweeping Program
- Full Trash Capture Device Installations in high trash generating areas

Table 5.1- Planned enhanced trash control measure implementation within the jurisdictional boundaries of the City of Menlo Park and associated trash loads reduced.

Trash Control Measure	Summary Description of Control Measure	% Reduction (Credits)	Trash Load Reduced	Cumulative % Reduction (Compared to Baseline)
Single-use Carryout Plastic Bag Ordinance (CR-1)	Implement ordinance to prohibit distribution of plastic bags in all retail, and charge a minimum fee for the distribution of paper single-use bags. Develop education campaign discouraging the use of all single-use carry out bags.	12%	898	12%
Polystyrene Foam Food Service Ware Ban (CR-2)	Implement ordinance to prohibit distribution of polystyrene based food service ware at eating establishments where prepared food is made.	8%	599	20%
Public Education and Outreach Programs (CR-3)	Implementation of advertising, social marketing campaigns, community outreach, and school education programs.	8%	599	28%
Improved Trash Bin/Container Management (Municipally or Privately-Controlled) (CR-6)	Development and implementation of a strategic plan for public area trash containers.	3%	225	31%
Enhanced Street Sweeping (QF-2) – (Existing and Future Enhanced)	Street sweeping at a greater frequency during the wet season using parking enforcement in commercial and retail areas.	NA	655	39%
Full-capture Treatment Devices (QF-5)	Installation of trash capture devices in high trash generating retail areas.	NA	432	42%

5.1 Annual Reporting and Progress Towards Trash Load Reduction Goal(s)

Consistent with MRP Provision C.10.d (i), the City of Menlo Park intends to report on progress towards MRP trash load reduction goals on an annual basis beginning with the Fiscal Year 2011-2012 Annual Report. Annual reports will include:

1. A brief summary of all enhanced trash load reduction control measures implemented to-date;
2. The dominant types of trash likely removed via these control measures;
3. Total trash loads removed (credits and quantifications) via each control measure implementation; and
4. A summary and quantification of progress towards trash load reduction goals.

Similar to other MRP provision, annual reporting formats will be consistent region-wide. Annual reports are intended to provide a summary of control measure implementation and demonstrate progress toward MRP trash reduction goals. For more detailed information on specific control measures, the City of Menlo Park will retain supporting documentation on trash load reduction control measure implementation. These records should have a level of specificity consistent with the trash load reduction tracking methods described in the *BASMAA Trash Load Reduction Tracking Method Technical Report* (BASMAA 2011e).

5.2 Considerations of Uncertainties

Baseline trash loading and load reduction estimates are based on the best available information at the time this Short-Term Plan was developed. As with any stormwater loading and reduction estimate, a number of assumptions were used during calculations and therefore uncertainty is inherent in the baseline trash load estimate presented in Section 2.0 and the load reduction estimate presented in this section. For these reasons, the baseline loading estimates presented in this plan should be considered first-order estimates. During the implementation of this Short-Term Plan and subsequent plans, additional information may become available to allow the calculation of a more robust baseline load.

Also, a number of the trash reduction measures in this plan will require City Council approval prior to implementation. In the event that any measures are not approved, causing the City of Menlo Park to fall below the 40% trash reduction mandate, the City will implement an equivalent alterative measure(s) to satisfy the requirements of the MRP.

6.0 IMPLEMENTATION SCHEDULE

Implementation of enhanced trash control measures by the City of Menlo Park is currently planned to occur in a timeframe consistent with MRP requirements. A preliminary implementation schedule for all planned enhancements is described in Table 5-1. This schedule provides a timeframe for reducing trash discharged from the City of Menlo Park's MS4 by 40%.

Based on new information that becomes available during the implementation of this Short-Term Plan (e.g., revisions to baseline loading estimates or load reduction credits of quantification formulas), the City of Menlo Park may chose to amend or revise this Plan and/or the associated implementation schedule. If revisions or amendments occur, a revised Short-Term Plan and implementation schedule will be submitted to the Water Board via the City of Menlo Park's annual reporting process.

Table 5-1-Preliminary implementation schedule for enhanced trash control measures in the City of Menlo Park

Trash Control Measure	Beginning Date of Implementation
Single-use Carryout Plastic Bag Ordinance (CR-1)	On or Before July 1, 2014
Polystyrene Foam Food Service Ware Ban (CR-2)	On or Before July 1, 2014
Public Education and Outreach Programs (CR-3)	Currently Implementing
Enhanced Street Sweeping (QF-2)	Currently Implementing
Full-capture Treatment Devices (QF-5)	Spring 2012

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